

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY



(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 28 OCT 2005

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Applicant's or agent's file reference 47445	<b>FOR FURTHER ACTION</b> See Form PCT/PEA/416	
International application No. PCT/IT2004/000661	International filing date (day/month/year) 29.11.2004	Priority date (day/month/year) 02.12.2003
International Patent Classification (IPC) or national classification and IPC B65H16/06, B65H67/02		
Applicant FABIO PERINI S.P.A. et al.		
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau) a total of 4 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>		
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application</p>		
Date of submission of the demand  29.06.2005	Date of this report  27.10.2005	
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Fachin, F  Telephone No. +49 89 2399-2057  	

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/IT2004/000661

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## Box No. I Basis of the report

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1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

### Description, Pages

1-16 as originally filed

### Claims, Numbers

1-27 received on 30.06.2005 with letter of 29.06.2005

### Drawings, Sheets

1/6-6/6 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/IT2004/000661

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	1-27
	No: Claims	
Inventive step (IS)	Yes: Claims	1-27
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-27
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

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**Box No. VII Certain defects in the international application**

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The following defects in the form or contents of the international application have been noted:

**see separate sheet**

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**Box No. VIII Certain observations on the international application**

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The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

## SECTION V

1. The invention relates to a plant for the production of logs of web material (claim 1) and to a method for producing reels of web material (claim 27) with the aim to simplify the construction and the management of said plant with respect to those known in the art. The posed problem is solved by providing a plurality of carriages having means for supporting and transferring the reels of web material while they are supported on the respective mandrels and for supporting and transferring back the mandrels to a recovery area.
2. Since every one of the documents cited either in the search report or in the application fails in disclosing **at least** a carriage having the above cited means, the subject matter of independent claims 1 and 27 as well as that of the dependent claims is considered to fulfil the criterion set forth in Article 33(2) PCT (novelty).
3. Furthermore the invention, as disclosed in independent claims 1 and 27, is considered not to be obvious to a person skilled in the art.  
Even document D1 (WO-00/56644), which is considered to represent the closest prior art, fails in disclosing the above mentioned features solving the posed problem and moreover it does not contain hints, taken alone or in combination with the teaching of anyone of the documents on record, to lead a person skilled in the art to a solution as that disclosed in claims 1 and 27.  
Nowhere, in the prior art there is any suggestion to use a winding mandrel as a support for supporting the reel until it is exhausted.

Consequently the subject-matter of the independent claims 1 and 27 as well as that of the dependent claims is considered to fulfil the criterion set forth in Article 33(3) PCT (inventive step).

4. Finally, since it appears that the claimed invention can be made or used in a technological sense in industry, it is considered to show industrial applicability within the meaning of Article 33(4) PCT.

## SECTION VII



5. The requirements of Rule 5.1(a)(ii) PCT are not met because document D1 is not identified in the description and the relevant background art disclosed therein is not briefly discussed.
6. The requirements of Rule 6.3(b) PCT are not met because claims 1 and 27 are not drafted in the two-part form, whereby the features known in combination from D1 are placed in the preamble.

### **SECTION VIII**

7. In order to fulfill the requirements of article 6 PCT claims 1, 2 and 27 should be amended with the aim to make clear that the reels mounted on the mandrel are supported via the mandrel itself on the carriage.

The wording of claim 1 "which transfer said reels and said mandrels" and that of claim 27 "loading the reels with their respective winding mandrels" do not reflect unambiguously the actual operational step.

For example the cited wording of claim 1 does not exclude that reels and mandrels are transferred separately.

In this case, for example, the wording could be amended as follows: "which transfer said reels on their supporting mandrels".

Moreover it seems to be redundant or even illogic to define the mandrels "finished empty" (see claim 1) or "finished" (see claim 27): the word mandrel defines simply such a item on which reels can or cannot be present.

8. The present application does not meet the requirements of Art 6 PCT because the description has not been brought into conformity with the claims on file.

EPO - DG 1

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30.06.2005

**Amendments under Art. 34 PCT**

(87)

**CLAIMS**

1. A plant for the production of logs of web material, comprising in  
5 combination at least:

- one winder (3) which receives at least one web material and produces large diameter reels (B) by winding said web material around winding mandrels (M);
- at least one unwinder (9) which unwinds said large diameter reels (B)  
10 and feeds the web material to a converting line (15, 21, 23);
- a plurality of carriages (11) which transfer said reels and said mandrels from a loading station (7) to said unwinder (9), sustain said reels in the unwinder during unwinding and convey the empty mandrels back to a recovery area.

15 2. Plant as claimed in claim 1, furthermore comprising means for transfer (5) of the reels and relevant mandrels from the winder (3) to said carriages.

3. Plant as claimed in claim 2, in which said transfer means comprise a conveyor (5) running between said winder (3) and said loading station (7).

20 4. Plant as claimed in claim 3, in which said conveyor comprises a conveying guide (5) for said reels.

5. Plant as claimed in claim 4, in which said conveying guide supports the reels via the protruding ends (M1) of the winding mandrels (M).

25 6. Plant as claimed in claim 3, 4 or 5, in which said conveyor (5) comprises moving parts (5A) which assume a retracted position for inlet and outlet of the carriages to and from said loading station, and an active position in which they permit transfer of the reels to a carriage positioned in the loading station.

30 7. Plant as claimed in one or more of the preceding claims, comprising a continuous paper machine (1) for the production of said web material, which consists of at least one ply of paper, in particular tissue paper, said web material being fed to said winder.

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8. Plant as claimed in one or more of the preceding claims, in which said unwinder comprises two stations for two of said carriages (11).

9. Plant as claimed in claim 8, in which between the loading station (7) and the unwinder (3) means are provided which can rotate said carriages 180° around a vertical axis before inserting them in the unwinder, the two carriages (11E, 11F) simultaneously present in the unwinder being rotated 180° with respect to each other.

10. Plant as claimed in one or more of the preceding claims, comprising a parking area (13) for reels produced by said winder, when said unwinder is not able to receive said reels.

11. Plant as claimed in one or more of the preceding claims, in which said carriages comprise a device for locking the mandrels on which said reels are wound.

12. Plant as claimed in claim 11, in which said locking device is combined with a rolling track (31A) on which said mandrels roll, the locking device retaining the mandrels in a given position along said rolling track.

13. Plant as claimed in claim 12, in which said rolling track is slanting with respect to the horizontal, to permit rolling by gravity of the mandrels along the track.

14. Plant as claimed in claims 3 and 13, in which said rolling track is arranged to constitute an extension of the conveying guide (5) of the reels in the loading station.

15. Plant as claimed in one or more of the claims 11 to 14, in which said device comprises, for each end of the mandrels, a lever mechanism defining a seat (43) for housing and retaining the corresponding end of the mandrel, and an actuator to lock and release the mandrels by means of said lever mechanism.

16. Plant as claimed in claim 15, in which said lever mechanism comprises a member (41) defining said seat (43), sustained by an oscillating lever (35) and a pair of levers hinged together (47, 49).

17. Plant as claimed in claim 16, in which said pair of hinged levers is combined with an actuator (51) which causes opening and closing of the pair of levers, said opening and closing causing oscillation of said oscillating

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lever and an oscillation and/or translation movement of the member defining the seat (43) for housing and retaining the end of the mandrel, to perform the functions of receiving the reels, lifting the reels from the rolling track and lowering the seat (43) below the rolling track to permit unloading of the finished mandrels.

18. Plant as claimed in claim 17, in which said actuator is a cylinder-piston actuator.

19. Plant as claimed in claim 18, in which said actuator comprises a twin cylinder-piston system (51A, 51B).

20. Plant as claimed in one or more of the claims 17 to 19, in which said oscillating lever (35) is combined with a shock absorber (39).

21. Plant as claimed in claim 20, in which an elastic member parallel to said shock absorber is combined with it.

22. Plant as claimed in one or more of the claims 16 to 21, in which said oscillating lever (35) and said pair of hinged levers (47, 49) are arranged so that the impact of a mandrel against said seat causes raising of the member defining the seat.

23. Plant as claimed in one or more of the preceding claims, in which said carriages comprise motorized members to rotate the mandrels and angularly position the reels arranged on them.

24. Plant as claimed in one or more of the preceding claims, in which a guide (26) is provided in said loading station for unloading the finished mandrels from the carriages (11).

25. Plant as claimed in claim 24, in which said guide (26) for unloading the mandrels comprises movable portions (26A) which assume a retracted position for inlet and outlet of the carriages to and from said loading station, and an active position in which they permit passage of the mandrels from the carriage to the unloading guide.

26. Plant as claimed in one or more of the preceding claims, in which said carriages are self-moving and remote-controlled.

27. Method for producing reels of web material and transforming said reels into finished products, comprising the following phases:

- winding said web material around winding mandrels (M) and forming said



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reels;

- loading the reels (B) with their respective winding mandrels (M) on respective movement carriages (11);
- transferring the reels and the mandrels by means of said carriages to an  
5 unwinder;
- supporting the reels and the mandrels by means of said carriages during unwinding;
- transferring via said carriages the finished mandrels from the unwinders  
10 to a mandrel recovery area.